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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/614,890	07/12/2000	Darko Kirovski	MS1-587US	2503

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EXAMINER

COLIN, CARL G

ART UNIT PAPER NUMBER

2136

DATE MAILED: 04/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/614,890	Applicant(s) KIROVSKI ET AL.	
	Examiner Carl Colin	Art Unit 2136	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4-9,12-24,26-28 and 35-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4-9,12-24,26-28 and 35-41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 24 May 2004 is: a) ☒ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. In response to communications filed on 1/18/2005 for request to continue examination, applicant amends claims 1, 4, 5, 6, 9, 12, 14, 16, 18-22, 24, 26-28, 35, 38, and 39, cancels claims 2, 3, 10, 11, 25, 29-34. The following claims 1, 4-9, 12-24, 26-28, and 35-41 are presented for examination.

2. The USC 112 rejection of claim 16 has been withdrawn in view of clarification of applicant in response filed on 11/30/2004.

2.1 Applicant's arguments, pages 15-29, filed on 11/30/2004, with respect to the rejection of claims 1, 3-9, 11-41 have been fully considered and they are persuasive as amended. Upon further consideration a new ground of rejection is made in view of a new reference US Patent 6,614,914 to Rhoads et al under 35 USC 102(e). Regarding claims 16 and 17, Rhoads in US Patent 5,745,704 discloses more explicitly the N-bit identification code, therefore claims 16 and 17 are rejected under 35 USC 103(a) in view of the combined references.

Claim Objections

3. Claim 14 is objected to for lack of indentation of limitation. See MPEP § 608.01(m). Appropriate correction is required.

3.1 Claims 9, 19, 21, are objected to because of the following informalities the phrase “carried out decoding” should read --carried out by decoding--.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4.1 **Claims 1, 4-9, 12-15 and 18-24, 26-28, 35-41** are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent 6,614,914 to **Rhoads et al.**

4.2 **As per claims 1, 35, 36, and 41, Rhoads et al** discloses a method for concealing data within a digital signal, the method comprising: receiving a first data pattern of discrete values

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and a second data pattern of discrete values (see column 9, lines 35-65); imposing a discrete value of the second data pattern over one or more values of the first data pattern (column 9, line 60 through column 10, line 18 and column 11, lines 7-32); **Rhoads et al** suggests using any non-linear function and further discloses using a spread spectrum modulation wherein the imposing is carried out by performing a Boolean operation with a discrete value of the second data pattern and discrete value of the second data pattern and multiple discrete values of the first data pattern (see column 16, line 45 through column 17, line 10); encoding a third data pattern into the digital signal, wherein such third data pattern is the result of the imposing, for example (see column 17, lines 4-10).

Claims 8, 20, 22, 23, and 18 recite the same limitation as the rejected claim 1 except for incorporating the claimed method into a computer readable medium, a system, or an apparatus.

Rhoads et al implements the invention in apparatus and system (see figures 1 and 2). Therefore, claims 8, 18, 20, 22, and 23 are rejected on the same rationale as the rejection of claim 1.

As per claims 9, 13, 19, and 21, Rhoads et al discloses a method and apparatus for revealing a covert data pattern of discrete values from an encoded data pattern of discrete values in a digital signal, the method comprising: receiving a digital signal the digital signal having a watermark encoded therein the watermark being an encoded data pattern of discrete values is encoded into the signal in one of multiple discrete states, the encoded data pattern representing multiple data patterns comprising an original watermark data pattern and a covert data pattern, for example (column 7, lines 27-67); extracting a discrete value of the covert data pattern from

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one or more values of the encoded data pattern wherein the extracting is carried out decoding a single discrete value of the covert data pattern from the digital signal based upon a state of a multiple discrete values of the encoded data pattern (see column 8, line 50 through column 9, line 17; column 31, lines 35-51).

As per claim 24, claim 24 recites same inventive concept as claims 1 and 9 except for replacing the second pattern by a covert channel and the first pattern by the watermarked signal. **Rhoads et al** also discloses an orientation pattern or control bits or carrier or key or detection pattern that meets the recitation of covert data pattern (column 7, line 60 through column 7, line 17). Therefore claim 24 is rejected on the same rationale as the rejection of claims 1 and 9.

As per claims 4, 26, and 37, **Rhoads et al** discloses the limitation of wherein the Boolean operation is XOR (see column 16, lines 45-60).

As per claims 5, 27, and 38, **Rhoads et al** discloses the limitation of wherein a pattern of discrete values may be encoded into the signal in one of multiple discrete states (see column 16, line 45 through column 17, line 10); the imposing comprises encoding multiple values of the first data pattern into the digital signal into a state that indicates a single discrete value of the second data pattern (see column 17, lines 1-20).

As per claims 6, 12, 28, and 39, Rhoads et al discloses the limitation of wherein the digital signal is selected from a group of consisting of a digital audio signal, a digital video signal, a digital image signal, and a digital multimedia signal (see column 4, lines 50-63).

As per claims 7 and 40, Rhoads et al discloses the limitation of wherein the first data pattern is a watermark (see column 9, line 60 through column 10, line 18).

As per claim 14, Rhoads et al discloses a method for encoding a watermark with a covert message into a digital audio signal, wherein binary bits of the watermark may be encoded into the signal in multiple states, the method comprising encoding multiple bits of the watermark into the digital signal into a state that indicates a single discrete value of the covert message (see column 16, line 45 through column 17, line 20).

As per claim 15, Rhoads et al discloses the limitation of wherein the multiple states are positive or negative modifications to magnitudes of one or more subbands in the frequency spectrum of a sample of the signal (column 12, lines 7-25 and column 13, lines 4-18).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have

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been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5.1 **Claims 16 and 17** are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6,614,914 to **Rhoads et al** in view of US Patent 5,745,604 to **Rhoads**.

5.2 **As per claims 16-17, Rhoads et al** substantially teaches a method for imposing a covert message into a watermark, the method comprising: generating multiple watermarks, for example (see column 7, lines 17-26); assigning each of the multiple watermarks to each of the possible discrete values for at least a portion of the covert message (column 7, lines 17-26); selecting a watermark corresponding to an actual discrete value of a specific portion of a covert message (column 7, lines 17-26); without encoding any portion of the cover message itself into a digital signal encoding the selected watermark into the digital signal (column 16, lines 35-43; column 17, lines 1-10; 56-64 and column 19, lines 4-15). **Rhoads** discloses in an analogous art generating multiple watermarks (column 11, lines 50-67 *US Patent 5,745,604*) and discloses the size of covert message with N bits long resulting into 2^N multiple watermarks, for example (see column 3, lines 35-45 and column 4, lines 8-37 *US Patent 5,745,604*), which provides an efficient way to identify a watermark and adds additional noise as desired. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify to provide a N-bit identification word as a unique identification binary value to identify a watermark and adds additional noise as desired wherein the size of all portions of the covert

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message is N bits long and wherein the number of the multiple watermarks is 2^N as taught by **Rhoads**. This modification would have been obvious because one skilled in the art would have been motivated by the suggestions provided by **Rhoads** so as to provide an efficient way to identify a watermark and adds additional noise as desired (column 15, line 10 through column 16, line 2).

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carl Colin whose telephone number is 571-272-3862. The examiner can normally be reached on Monday through Thursday, 8:00-6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh can be reached on 571-272-3795. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Carl Colin
Patent Examiner
March 29, 2005


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